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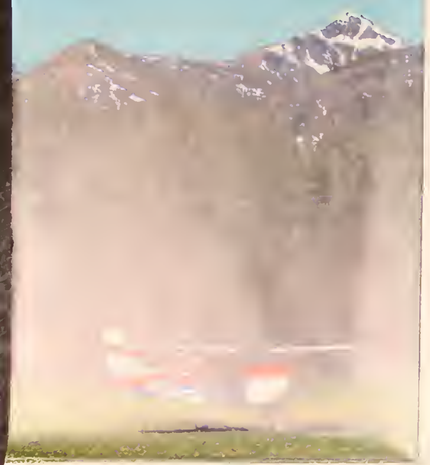
MONTANA

2005 Aeronautical Chart



Welcome to Big Sky Country!

Discover why Montana has long held the title of "Big Sky Country" in the best manner possible by air. We invite you to travel in Montana by aircraft and encourage you to explore our state's amazing array of one-of-a-kind scenic and recreational attractions.

During your visit you will enjoy modern and convenient airports, well-maintained recreational airstrips, beautiful scenery, abundant wildlife, great snow for winter sports, comfortable and affordable accommodations, outstanding cuisine, and most importantly of all, the friendliest people in the West. For all that comprises a memorable trip by airplane Montana has to lack.

It is our pleasure to provide you with this aeronautical chart and we certainly hope you will utilize it to assist you in many safe and enjoyable flights over our magnificent Big Sky Country!

Welcome and Blue Skies!

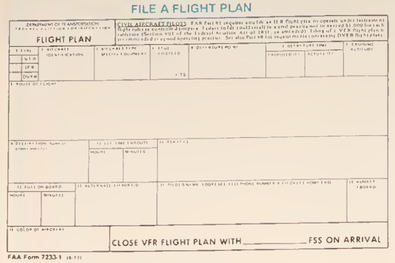
Brian Schweitzer, Governor
State of Montana

Debbie Alke, Administrator
Montana Aeronautics Division

Cover: Schafer Meadows, Mike Quinn

Below: TravelAir 6000, Mauri Morin & Bill Olson

FILE A FLIGHT PLAN

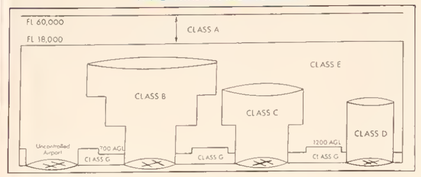


FAA Form 7233-1 (8-72)

SPECIAL EQUIPMENT SUFFIX

X	No transponder	/C RNAV, transponder with no altitude encoding capability
T	Transponder with no altitude encoding capability	/I RNAV, transponder with altitude encoding capability
/U	Transponder with altitude encoding capability	/A RNAV, no transponder
*D	DME, no transponder	
*I	DME, transponder with no altitude encoding capability	
*A	DME, transponder with altitude encoding capability	

AIRSPACE CLASSIFICATION



Airspace Features	Class A	Class B	Class C	Class D	Class E	Class G
Current Analogous Equivalent	Positive Control Area (PCA)	Terminal Control Area (TCA)	Airport Radar Service Area (ARSA)	Airport Traffic Area (ATA) and Control Zone (CZ)	General Controlled Airspace	Uncontrolled Airspace
Operations Permitted	IFR	IFR and VFR	IFR and VFR	IFR and VFR	IFR and VFR	IFR and VFR
Entry Prerequisites	ATC clearance	ATC clearance	ATC clearance for IFR. Radio contact for all	ATC clearance for IFR. Radio contact for all IFR	ATC Clearance for IFR	None
Minimum Pilot Qualifications	Instrument Rating	Private or Student Certificate	Student Certificate	Student Certificate	Student Certificate	Student Certificate
Two-way Radio Communications	Yes	Yes	Yes	Yes for IFR	No	No
VFR minimum visibility	N/A	3 Statute Miles	3 Statute Miles	3 Statute Miles	+ 3 Statute Miles	+ 1 Statute Mile
VFR minimum Distance from Clouds	N/A	Clear of Clouds	500 below, 1,000 above and 2,000 horizontal	500 below, 1,000 above and 2,000 horizontal	+ 500 below, 1,000 above and 2,000 horizontal	+ 500 below, 1,000 above and 2,000 horizontal
Aircraft Separation	All	All	IFR and VFR and runway ops	IFR and VFR and runway ops	IFR and VFR	None
Conflict Resolution	N/A	N/A	Between IFR and VFR ops	No	No	No
Traffic Advisories	N/A	N/A	Yes	Workload permitting	Workload permitting	Workload permitting
Safety Advisories	Yes	Yes	Yes	Yes	Yes	Yes

* Different visibility, running and distance from cloud requirements may be for night operations; operations above 10,000 MSL; and operations below 1,200 AGL.

Mode C in A, B, C

MOUNTAIN FLYING

GENERAL

Always remember that you are flying in a huge and very sparsely populated territory. If you have a problem, it may be some time before anyone knows about it. You will be landing on fields where there is no one to help you in case of trouble and it is a long walk out. Do not take chances.

Navigation is critical – have the necessary maps and know where you are. Pilotage is the means of navigation you will be relying on.

The horizon in the mountains is difficult to determine. If you use the tops of the mountains for the horizon, the aircraft will be in a constant climb attitude. Use your attitude indicator and check the airspeed and altimeter to confirm your attitude.

1. Make sure that your proficiency level and your aircraft meet the special demands of your planned flight.
2. If you are not sure of your capabilities, take some dual instruction from a flight instructor experienced in mountain flying.
3. Keep your aircraft as light as possible.
4. Be familiar with your planned route of flight and destination airport. Check the field conditions with FSS or experienced local pilots. Familiarize your self in advance with the field length, elevation and any special approach/departure procedures.
5. Obtain a thorough weather briefing. A forecast of marginal VFR frequently translates to IFR in the mountains.
6. Plan your trip for early morning or evening hours. Turbulence is usually greatest from 10:00 a.m. to 6:00 p.m.
7. Stay out of the mountains if the forecast winds aloft exceed 25 knots below 12,000 MSL. The wind velocity can double in the vicinity of mountain passes and canyons. NEVER fly up a blind or narrow canyon.
8. Mountain winds follow contours much like a stream. The air on the lee (downwind) side of a mountain may be extremely turbulent. Fly on the upwind side of a canyon wherever possible.
9. Cross-check your instruments and attitude indicator frequently. Visual horizons in the mountains may be illusory.
10. Maintain your airspeed in downdrafts and don't panic. Be able to turn to lower terrain at all times.
11. Approach ridges at a 45° angle, so if you're caught in a downdraft, you can turn away toward lower terrain.
12. Be courteous to those on the ground who are enjoying a wilderness experience. Maintain sufficient altitude – 2,000 AGL is suggested over wilderness areas.
13. Plan your trip over valleys as much as possible.
14. Carry a good survival kit and familiarize yourself with its use.

LANDINGS

Safety of flight dictates that each pilot transmit "in the blind" on 122.9 whenever approaching or departing a non-unicom equipped airport to advise other aircraft of your intentions. You can not always maintain constant visual contact with the runway at many of the back country strips and acceptance of this practice will assure an added safety factor when using these facilities. These airstrips receive considerable use by aircraft at certain times. Before flying into this territory, practice short field power on landings. Be sure you can land your aircraft on a fifty foot spot not once in a while but every time.

1. Land upstream (uphill) whenever possible, but remember that many mountain airstrips are "one way" only. Wet grass reduces braking action and most mountain airstrips are short.
2. Control your rate of descent with power. Maintain a stable airspeed (generally the short field approach speed listed in your aircraft operators manual).
3. Before beginning your approach, circle your intended destination to ensure that the field is clear of other aircraft, livestock, wildlife, etc.
4. Abort your approach if the air becomes turbulent on your let-down. Avoid low altitude maneuvering.

TAKEOFF

Each takeoff requires careful analysis of all factors that will affect the takeoff. Aircraft performance, runway condition (soft, rough, height of vegetation) – all have negative effects on takeoff performance. Density altitude, temperature, field elevation, humidity – again these factors (as they get "higher") are all negative as far as aircraft performance is concerned. Engine horsepower is also affected by density altitude – adjust mixture control for maximum power. CAUTION: select a spot free of rocks for engine runup. You will probably be unable to attain the performance levels indicated in your aircraft operator's handbook. It is best to be conservative as opposed to being too optimistic when considering takeoff performance. It is recommended that during summer months, takeoffs and landings be made during early morning hours and during early evening hours when the air is least turbulent.

1. CHECK DENSITY ALTITUDE! If takeoff performance for your aircraft is questionable, wait until evening or early morning when conditions are more favorable.
2. Remember that tall grass or soft/tough field conditions can add considerably to your takeoff distances.
3. Choose a going-no point on the runway. If not airborne at that point, abort the takeoff and wait for better conditions.
4. Takeoff downstream (downhill) whenever possible.

TAXI

A WORD OF CAUTION! Taxiing off of established runways at back-country airstrips requires considerable caution. There are hazards such as gopher holes, depressions, and rocks which may be hidden by tall grass. If unsure of surface conditions, shut your engine down and push the aircraft to a parking spot well off of the runway. A prop strike would "ruin your whole day."

RECREATION AIRPORTS

AIRPORT	LAT	LONG
BABB	48-51	113-26
BENCHMARK	47-26	112-50
BOZEMAN	45-46	111-10
CANYON FERRY	46-25	111-34
COLUMBUS	45-38	109-15
CONNER (WEST FORK)	45-52	114-13
FORT SMITH	45-19	107-56
GARDINER	45-03	110-44
KALISPELL (CITY)	48-10	114-17
LINCOLN	46-58	112-39
MEADOW CREEK	47-51	113-25
MISSOULA	46-56	114-05
POLSON	47-41	114-11
REO LODGE	45-11	109-17
ROCK CREEK	46-43	113-39
SCHAFER	48-05	113-15
SEELEY LAKE	47-11	113-27
SPOTTED BEAR	47-58	113-34
THREE FORKS	45-53	111-34
TIBER DAM	48-19	111-07
TROY	48-29	115-54
VALIER	48-18	112-15
WEST YELLOWSTONE	44-41	111-07
WISDOM	45-35	113-28
WISE RIVER	45-46	112-59

ADDITIONAL PRIVATE AIRPORTS

The following private airports have been registered but do not appear on the Aeronautical Chart for reasons such as simplicity of presentation, region clutter, or post-deadline submissions, to name a few.

Airport Name	Location
Hoggatt Ranch	6 Miles North of Rock Springs
Double Rafter Ranch	N45° 41 295' W108° 48 290'
Littles	10 Miles NW of Helena
McKenna	N45° 47 423' W111° 07 420'
Stillwater PVT	N48° 18 487' W114° 22 947'
Abel	N48° 6' W114° 10'

VFR TRANSPONDER CODES· MODE A/3

OPERATION	CODE
VFR	1200
Radio Failure (See AIM)	7600
Hijack	7500
EMERGENCY	7700

TIME CONVERSION TO GMT(Z)

Eastern Standard Time, add 5 hours
Central Standard Time, add 6 hours
Mountain Standard Time, add 7 hours
Pacific Standard Time, add 8 hours
Alaska, add 9 hours

Eastern Daylight Time, add 4 hours
Central Daylight Time, add 5 hours
Mountain Daylight Time, add 6 hours
Pacific Daylight Time, add 7 hours
Hawaii, add 10 hours

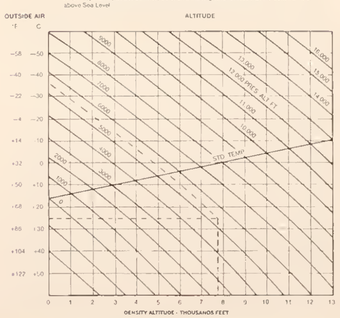
CRUISING ALTITUDES

(IFR Wehn Controlled Airspace May be Modified by ATC)

OENSITY ALTITUOE CHART

LEARN TO USE THIS CHART — **POST IN PLANE**

Operational altitude is the calculated altitude at the air at which the aircraft is flown. Aircraft operation, as a result may be at an altitude greater or less that the actual altitude above Sea Level.



The following example illustrates the simple use of this chart to determine the conditions at the airport you plan to use.

Select the actual altitude of the airport to be used on the diagonal lines marked "Field Altitude" (Example: 3,000 ft.). Next, select the temperature (Example: 77°F). Follow the temperature line to the right until it crosses the diagonal line (Field Altitude). From the point where these two lines cross, follow a line to the bottom of the chart and obtain the operational or density altitude (Example: 7700 ft.).

Springtime fun, Seeley Lake, Mike Quinn

S. Rim Lake, Glacier National Park, David Hunt

The "other" way to get to Schaffer Meadows, Dan Ellis

Grand Prismatic Spring, Yellowstone National Park, Mike Quinn

Old Faithful, Yellowstone National Park, Mike Quinn

Twin Beech Squatting, Seeley Lake, Jerry Cain

Stillwater Lake, Brian McDonald

Flying in the "Big Sky"

Winter, Spring, Summer, or Autumn – it's always the ideal time to explore all that Montana has to offer, and there is no better way to explore Montana than by aviation. Whether you plan to thunder down the slopes at one of our world-class skiing destinations, land the "One That Got Away" during a tranquil day of fly-fishing on our many rivers, keep cool and look cool during summer activities on our pristine lakes, or find that perfect secluded camp site in the backcountry, Montana truly is the "Last Best Place" for all of your recreational activities.

Winter is a magical time in Montana. The snows cover the world in a blanket of white, making our towns appear like scenes out of a Dickens novel. Downhill skiers delight in the fact that our slopes are the undiscovered secret of Rocky Mountain Skiing. From gentle cruising beginner slopes to elevator-shaft steeps, world renowned members-only ski clubs to no-frills, ski until you drop "mom-and-pop" local hills, Montana has it all. Nowhere else can you find slopes with untracked powder at two o'clock in the afternoon, or locals who find even a ten-minute wait for a chairlift unacceptable. Cross-country skiers will find that their possibilities are endless. Nordic resorts with meticulously groomed trails, seemingly unlimited backcountry access, and trail systems maintained around just about every town guarantee that you will return season after season with a smile on your face. Ice-fishing derbies, snowmobile rallies, and Winter Carnivals are just a few more activities that make our state a true Winter Wonderland.

Spring brings a revival to the world as it rises out of its winter slumber. Rarely will you find a more picturesque time of year: the valleys are lush and green with winter runoff, the peaks are still capped white with snow, and the sky is a fresh clear blue. Make sure your camera is handy, because even the most amateur of photographers can get a postcard quality shot with backdrops such as these. The rivers and creeks run cold, but the fly-fishing heats up as anglers from around the world begin to converge once again on our championship fishing. Meanwhile the trails begin to thaw for hikers and mountain bikers eager to be the first to access public favorites.

Summer in Montana cannot be matched. Period. Watersports on our lakes, whitewater rafting and fishing on our rivers, hiking in our backcountry, or camping in the great outdoors, nowhere on earth will you find more numerous and gorgeous locations to do it all, yet with fewer people to contend with, than here in Montana. The soul-stirring grandeur of Glacier National Park and the awe-inspiring wildlife of Yellowstone National Park are just a few excuses that tourists from around the world use to return to our state year after year. With daylight lasting up to seventeen hours a day, you will run out of things to do before you run out of time to do them in on a summer day in Montana.

Autumn is arguably the best season of them all. The crisp mornings give way to warm and tranquil afternoons, while the light turns from rich gold to pale silver in the waning days of the year. Hunters gear up for their trophies, while minds and books are opened as another school year begins. Autumn is also football season. From the Cat/Griz Classic to the Carroll College National Champion Fighting Saints, Montana has no lack of stadium-sized pigskin excitement.

With so many activities to choose from, and so many locations at which to do them throughout Montana, it's no wonder that we can honestly claim to be "The Last Best Place". No matter what time of year, no matter what you consider recreation, you will find that Montana is your one-stop destination for it all. And there is no better way to explore all that we have to offer than by air. Aviation and Montana are a sure-fire combination to prove that life is a journey, not just a destination.

4th of July float takeoff, Campbell Farm Rally, Sun

Front Display Runway, Richard Ihne, Mike Quinn

Downhill delight, Big Sky Resort, Mike Quinn

Hibernation Hangar, Montana Winter, Dan Ellis

Snow Plane, Schafer Meadows, Perry Brown

Classics of Aviation, Formation, Joan Quinn

The Face of Montana Aviation, Tommy Lee Jones, Quinn

Summer Fun in the summer sun, Frank Wiley

"The Last Best Classroom" Rocky Mountain, Ellis

Backcountry access, 1989

"Camping at its finest" Missouri Breaks, Dan Ellis

Fire suppression aircraft, Jim McStaffey

Missoula Air Show, Darrell Grosser

Maritime Airshow, Billings, Dan DeArmond

Sunset on Schafer Meadows, USFS

MONTANA VFR AERONAUTICAL CHART

Scale 1:1 000 000

1 inch = approx. 16 Statute Miles

AERONAUTICAL SYMBOLS

AERODROME

NAVAID

MISCELLANEOUS

CAUTION

NUMEROUS HAZARDOUS POWER LINE CROSSINGS IN WESTERN MONTANA

(Most unlighted and unmarked)

POWDER RIVER A MOA

POWDER RIVER B MOA

Statute Miles

Nautical Miles

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